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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,625	03/18/2004	Alessandro Gallitognotta	59183-8059.US02	5807

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Perkins Coie LLP
P.O. Box 2168
Menlo Park, CA 94025

EXAMINER

ZIMMERMAN, GLENN

ART UNIT PAPER NUMBER

2879

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/803,625	GALLITOGNOTTA ET AL.	
	Examiner	Art Unit	
	Glenn Zimmerman	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on November 12, 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/18/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Howorth et al. U.S. Patent 3,786,296.

Regarding claim 1, Howorth discloses a cathode (**cylindrical cathode Fig. 1 ref. 2**), the cathode formed by a cylindrical hollow part (**ref. 2**) closed at a first end and open at the opposed end (**ref. 2**) in which on at least an outer or inner portion (**col. 3 lines 35-38**) of the cylindrical surface includes a layer of getter material.

Regarding claim 2, Howorth discloses the cathode as recited in claim 1, wherein the cylindrical hollow part is made essentially of metal (**col. 2 lines 31-34**).

Regarding claim 3, Howorth discloses the cathode according to claim 2, wherein the metal includes material chosen from among the group consisting of nickel, molybdenum, tantalum and niobium (**col. 2 lines 31-34; tantalum**).

Regarding claim 4, Howorth discloses the cathode as recited in claim 1, wherein the layer of getter material is formed of a metal selected among the group consisting of titanium (**col. 3 lines 35-38**), vanadium, yttrium, zirconium, niobium, hafnium, and tantalum.

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Regarding claim 6, Howorth discloses the cathode as recited in claim 1, where the getter layer is formed by cathodic deposition (**col. 3 lines 34-36**).

Claims 1 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Almer U.S. Patent 3,582,702.

Regarding claim 1, Almer discloses a cathode (**Fig. 4 and 7 ref. 1 hollow cylindrical electrode cathode**), the cathode formed by a cylindrical hollow part (**ref. 1**) closed at a first end and open at the opposed end (**ref. 1**) in which on at least an outer or inner portion (**gas-binding coating of zirconium ref. 2**) of the cylindrical surface includes a layer of getter material.

Regarding claim 15, Almer discloses the cathode as recited in claim 1, wherein the layer of getter material is less than 20 microns thick (**col. 4 lines 56-58; 10 microns**).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howorth et al. U.S. Patent 3,786,296 in view of Giorgi U.S. Patent 5,242,559.

Regarding claim 5, Howorth teaches all the limitations of claim 5, but fails to teach wherein the layer of getter material is an alloy that includes zirconium or titanium

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combined with one or more elements selected among the group of transition metals and aluminum. Giorgi in the analogous art teaches zirconium or titanium combined with one or more elements selected among the group of transition metals and aluminum (**col. 4 lines 18-20 or 9-11**). Additionally, Giorgi teaches incorporation of such an alloy to improve gettering and gas sorption (**abstract**) and provide and anti-sintering agent to maintain a large surface of the gas sorbing material (**col. 2 lines 12-15; col. 4 lines 15-20**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use teaches zirconium or titanium combined with one or more elements selected among the group of transition metals and aluminum in the gettering of Howorth, since such a modification would improve gettering and gas sorption and provide and anti-sintering agent to maintain a large surface of the gas sorbing material as taught by Giorgi.

Regarding claim 7, Howorth teaches all the limitations of claim 7, but fails to teach electrophoretic deposition of a getter layer. Giorgi in the analogous art teaches electrophoretic deposition of a getter layer (**abstract**). Additionally, Giorgi teaches incorporation of such a electrophoretic deposition of a getter layer to improve the gettering cost by avoiding the use of excessive amounts of getter material (**col. 2 lines 52 and 53**), to prevent the need for costly or complicated production equipment (**col. 2 line 56-57**), provide a method suitable for mass production (**col. 2 line 60**) and allow for getting devices which have practically any shape and size of support (**col. 3 lines 1 and 2**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use electrophoretic getter deposition in the electrode of Howorth, since such a modification would improve the gettering cost by avoiding the use of excessive amounts of getter material, to prevent the need for costly or complicated production equipment, provide a method suitable for mass production and allow for gettering devices which have practically any shape and size of support as taught by Giorgi.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Evans et al. U.S. Patent 5,856,726 discloses an Electric Lamp with a Threaded Electrode. The examiner points out that the Evans reference could also be used to reject many of these claims under 102 and 103. The Evans reference has a cylindrical shaped electrode with an internal getter coating. Jennato et al. U.S. Patent 5,666,031 discloses a Neon Gas Discharge Lamp and Method of Pulsed Operation. Krumholz U.S. Patent 6,404,132 discloses Neon Cruising Lights for Use with Motor Vehicle Headlights.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (571) 272-2466. The examiner can normally be reached on M-W 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn Zimmerman



Vip Patel
Primary Examiner
AU 2879